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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/762,948	01/22/2004	Jeffrey P. Allen	05046-00041	5979
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BANNER & WITCOFF, LTD. 28 STATE STREET 28th FLOOR BOSTON, MA 02109-9601			EXAMINER CANTELMO, GREGG	
			ART UNIT	PAPER NUMBER
			1745	

DATE MAILED: 11/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/762,948

Applicant(s)

ALLEN, JEFFREY P.

Examiner

Gregg Cantelmo

Art Unit

1745

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-13,31 and 32 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1,10-13,31 and 32 is/are rejected.
- 7) ☒ Claim(s) 2-9 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 January 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Response to Preliminary Amendment

1. In response to the preliminary amendment received January 22, 2004:
 - a. Claims 1-13 and 31-32 are pending. Claims 14-30 have been cancelled.

Priority

2. Applicant's claims for priority are acknowledged.

Drawings

3. The drawings received January 22, 2004 are acceptable for examination purposes.

Specification

4. The disclosure is objected to because of the following informalities: the status of the cross-referenced applications should be brought up to date since the non-provisional application has matured into a U.S. patent. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 10 and 12 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 3,430,476 (Duda).

Duda discloses a method of manufacturing a segmented plate comprising: providing a sheet 26 of material having a fixed width, passing the sheet through a tool a predetermined distance to supply the sheet to the die (Fig. 12), forming a pattern on the sheet with the tool along the length of the sheet, the pattern including ribs (Figs. 2-4, 12, 14 and 15a-15d), passing the sheet through the tool a predetermined distance to repeat the steps of forming the pattern on the sheet and passing the sheet through the tool having plural corrugated segments (Figs. 15a-15e as applied to claim 1). The claim lacks sufficient structural features to define the term "fuel cell bipolar separator plate" over the plate of Duda. The method of forming a segmented plate as defined in claim 1 is held to be identical in scope as to that disclosed in Duda. If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction (as applied to claim 1).

The corrugated channels form a flow path. The particular fluent material provided therein does not further limit the method of manufacturing the plate but is an intended use of the plate when provided in the fuel cell. If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than

any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction (as applied to claim 10).

The ribs extend perpendicular to the direction the sheet passes through the tool (Fig. 4 as applied to claim 12).

7. Claims 1, 10, 12 and 31 are rejected under 35 U.S.C. 102(e) as being anticipated by U.S. Patent No. 6,383,678 (Kaneko).

Kaneko discloses a method of manufacturing a segmented bipolar separator plate comprising: providing a sheet of material having a fixed width, passing the sheet through a tool 34 a predetermined distance to supply the sheet to the die (Fig. 4), forming a pattern on the sheet with the tool along the length of the sheet, the pattern including ribs (Fig. 4), passing the sheet through the tool a predetermined distance to repeat the steps of forming the pattern on the sheet and passing the sheet through the tool having plural corrugated segments (Figs. 1 and 4 as applied to claim 1).

The corrugated channels form a flow path. The particular fluent material provided therein does not further limit the method of manufacturing the plate but is an intended use of the plate when provided in the fuel cell. If the body of a claim fully and intrinsically sets forth all of the limitations of the claimed invention, and the preamble merely states, for example, the purpose or intended use of the invention, rather than any distinct definition of any of the claimed invention's limitations, then the preamble is not considered a limitation and is of no significance to claim construction (as applied to claim 10).

The ribs extend perpendicular to the direction the sheet passes through the tool (Fig. 4 as applied to claim 12).

The separator sheet in Fig. 4 is dimensioned to a desired length relative to the fuel cell and is cut to such dimensions at some point in the process of the separator (Figs. 2 and 4 as applied to claim 31).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko in view of U.S. patent No. 6,261,710 (Marianowski).

The teachings of claims 1 and 10, with respect to Kaneko, have been discussed above and are incorporated herein.

The difference between claim 11 and Kaneko is that Kaneko does not disclose of forming a flow path by mating two sheets having patterns together, the ribs of one sheet having a height greater than the ribs of the other such that channels exist between the two sheets.

Marianowski discloses providing a nested separator arrangement in Fig. 3 to provide both reactant flow and coolant flow to the separator.

The motivation for providing the arrangement of Marianowski is that it improves the temperature control of the separator and fuel cells adjacent the separator.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Kaneko by providing the nested separator arrangement as suggested by Marianowski since it would have improved the temperature control of the separator and fuel cells adjacent to the separator.

10. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko in view of U.S. patent No. 4,514,475 (Mientek).

The teachings of claim 1, with respect to Kaneko, have been discussed above and are incorporated herein.

The difference between claim 13 and Kaneko is that Kaneko does not disclose of folding the edges over onto itself to form a seal.

Mientek discloses folding the edges of a fuel cell separator (Figs. 2, 3, 5 and 6).

The motivation for folding the edges of the separator is that it provides a seal.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Kaneko by folding the edges of the separator over onto itself as suggested by Mientek since it would have provided a reactant seal.

11. Claim 32 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kaneko in view of JP 11-250917A (JP '917).

The teachings of claim 1, with respect to Kaneko, have been discussed above and are incorporated herein.

The difference between claim 32 and Kaneko is that Kaneko does not disclose of coiling the separator.

JP '917 discloses manufacturing a separator material wherein the separator sheet is provided from a continuous coil (Fig. 1b).

The motivation for providing the separator stock sheet from a coil is that it provides a continuous source and continuous feed to the die which increases the throughput separator sheet production for a given amount of time.

Therefore it would have been obvious to one of ordinary skill in the art at the time the claimed invention was made to modify the teachings of Kaneko by providing the separator sheet from a continuous coil feed as suggested by JP '917 since it would have increased the rate of production of separators in a given amount of time.

Allowable Subject Matter

12. Claims 2-9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


The following is a statement of reasons for the indication of allowable subject matter: none of the prior art of record appears to teach, fairly suggest or render obvious the invention of claim 2. In particular: of the pattern having first and second mating pair apertures as defined in claim 2.

Neither Duda nor Kaneko discloses of any mating pair apertures defined in the relationship set forth in claim 2.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gregg Cantelmo whose telephone number is (571) 272-1283. The examiner can normally be reached on Monday to Thursday from 9 a.m. to 6 p.m. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Pat Ryan, can be reached on (571) 272-1292. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306. FAXES received after 4 p.m. will not be processed until the following business day. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Gregg Cantelmo
Primary Examiner
Art Unit 1745

gc

November 29, 2004